Aim of present work

2. AIM OF THE PRESENT WORK

SMEDDS spread readily in the GI tract, and the digestive motility of the stomach and the intestine provide the agitation necessary for self-emulsification. When compared with emulsions which are sensitive and metastable dispersed forms, SMEDDS are physically stable formulations that are easy to manufacture. Thus, for lipophilic drug compounds which exhibit dissolution rate-limited absorption, these systems may offer an improvement in the rate and extent of absorption and result in more reproducible blood-time profiles.

Candesartan cilexetil is an esterified prodrug of candesartan, a nonpeptide angiotensin II type 1 (AT\textsubscript{1}) receptor antagonist used in the treatment of hypertension. Based on its solubility across physiological relevant pH conditions and absorption characteristic, candesartan cilexetil is classified in the Biopharmaceutical classification system as a class II drug. Low solubility of candesartan cilexetil across the physiological pH range is reported to result in incomplete absorption from the GI tract and hence is reported to have an oral bioavailability of about 15%. Candesartan cilexetil is a highly lipophilic compound and has good solubility in tri and diglyceride oils. These factors, may contribute toward absorption via the lymphatic route.

The main objective of this work is to prepare S-SMEDDS for oral solubility and bioavailability enhancement of poorly water soluble drug.

- To formulate a stable liquid SMEDDS formulation using suitable excipients.
- To enhance the solubility, dissolution rate and bioavailability of drugs using suitable vehicles and excipients.
- To compare the dissolution rate of optimized liquid SMEDDS and S-SMEDDS with marketed formulation.
- To perform the stability study of optimized SMEDDS formulation as well as marketed formulation as per ICH guidelines and to find out shelf life of the developed S-SMEDDS.
- To perform the bioavailability assessment of optimized S-SMEDDS formulation.